

R E P O R T

ON THE

**Health of the Borough of Ludlow
for the Year 1903.**

C. B CRANSTOUN, M.B.

Medical Officer of Health.

Sanitary Committee.



- 1 HIS WORSHIP THE MAYOR, Chairman.
- 2 Mr. ALDERMAN ATHERDEN.
- 3 ,, WEALE.
- 4 Mr. COUNCILLOR BLAKE.
- 5 ,, BODENHAM.
- 6 ,, DODGSON.
- 7 ,, HARRIS.
- 8 ,, PERRY.
- 9 ,, TWIDDY.



Times of Meeting—Last Friday in each Month, at 5-30 p.m.



GENTLEMEN,

I beg to present my Report on the Health of the Borough for the year ending December 31st, 1903.

It is a matter for congratulation that the general death rate again shows a decrease—from 17·54 to 16·7; but in a town such as ours it ought to be less still. Some of our Great Towns still show a death rate lower than ours—*vide page 9*.

The zymotic death rate is 1·1 as compared with 0·94 of last year, and 1·0 for the last ten years.

The birth rate is 26·7—a decrease when compared with the 29·4 of last year. The average for the last ten years is 27·2.

Progress has been made during the past year in the demolition and reconstruction of privy pits, and also in the extension of the water carriage system.

Events have fully proved how wisely the Urban and District Authorities acted in making provision for the isolation of small-pox cases.

I desire to draw your attention to the following matters, which press for your early and careful consideration :—

- (a) The abolition of the ever-increasing and highly-dangerous accumulation of refuse in the Smithfield, and the provision of some efficient means of refuse disposal.
- (b) The extension of the water-carriage system wherever possible, instead of the present middens and privies.
- (c) The strict enforcement of the laws dealing with the dwellings of the poor, and the improvement of all such dwellings where necessary.
- (d) The provision of a General Isolation Hospital for the Borough and surrounding neighbourhood.
- (e) The paving and improvement of the sanitary condition of back courts, yards, and alleys.
- (f) The control of the numerous vagrant dogs which roam our streets and often defile our pavements in a most filthy and disgusting fashion.
- (g) The completion of the Sewerage Scheme in the newly added area.
- (h) The dirty and unsanitary condition of Steventon New Road.
- (i) The bad and filthy condition of the road surface in Friars Alley.

In conclusion, Gentlemen, I beg to thank you for the kind help you have so often afforded to me while endeavouring to carry out my duties in a manner to benefit the health of our townsmen and the trade of the Borough.

I am, Gentlemen,

Your obedient Servant,

C. B. CRANSTOUN,

Medical Officer of Health.

Borough of Ludlow, 1903.

(Census, pop.)

Population of the Borough in 1903	...	...	...	6328
Acreage of the Borough	„	...	...	416
Rateable value	...	...	...£22,088	8s. 0d.
Assessable value	...	...	...£19,851	0s. 10d.
A Borough Rate of 1d. in the £ produces	...	£77	19s.	7d.
Total Mileage of Streets	...	...	5 miles	423 yards
Total length of Main Roads	...	...	3386	yards
Total length of District Roads	...	...	2346	yards
Number of Inhabited Houses	...	...	...	1538
Number of Burgesses on Roll	...	...	...	1337
Number of Parochial Electors	...	...	...	1419
Number of Parliamentary Voters on List	...	...	...	1102
Birth rate per 1000	...	...	...	26·7
General Death Rate per 1000	...	...	...	16·6
Deaths of Infants under 1 year per 1000 births	...	...	...	82·8
Zymotic Death rate	...	...	...	1·1
Persons to an Acre	...	...	...	15·2

Topographical Features of Ludlow.

Ludlow is a small agricultural town on the southern border of Shropshire, about 360 feet above sea-level. It is situated on a large spur of limestone rock which rises at the lower end of the Corve Valley. On the north, west, and south sides it is separated from the surrounding hills by the rivers Corve and Teme. On the east side the ground gradually rises till it becomes continuous with the Clee Hill range.

Geological Formation.

The geological formations with their overlying deposits within the boundary of the Borough of Ludlow may be briefly described thus :—

Taking a line from the Castle through the Bull Ring to the top of Julian Road, the following strata will be encountered. It may be well here to state that the general trend or dip of the several strata passed through is in an easterly direction. The Castle itself stands upon a mass of Upper Ludlow Rock. Before reaching the Town Hall the Downton Sandstone crops up. This is overlain by Gravel, increasing in thickness as we proceed through High Street towards the Bull Ring, where is found a deep bed of coarse Gravel and Clay with large Boulder Stones. This is followed in Upper Galdeford by a thick bed of Red Marl overlying Olive Shales and old Red Sandstone, passing onward through old red debris to the top of Julian Road and Sandpits lane, where thick beds of Gravel are met with. Retracing our steps to Upper Galdeford and proceeding along the main road as far as the "Raven," thick beds of Marl intermixed here and there with coarse Gravel will be found. Taking a second line at right angles to the first, that is to say, from the bottom of Old Street through the Bull Ring to the bottom of Corve Street, we find for some distance up Old Street Gravel upon Blue Clay overlying the old Red Sandstone, but at about one-third up the street the Downton Sandstone comes to the surface, and continues to within a short distance of the top, where a mass of hard "Blue Rock" extends nearly to the Bull Ring. Upon descending Corve Street after passing through the thick bed of coarse Gravel before-mentioned, we come upon beds of Yellow and Red Clay overlying old Red Sandstone. From this point to the bottom of the street are continuous beds of deep Gravel. Returning to our starting point at the bottom of Old Street and following the road by the river side to the boundary of the Borough, the Transition Rocks dividing the two great systems of Geology, the Silurian and Devonian are passed through. These consist mainly of thinly laminated Sandstone, known as Tilestone, and a highly micaceous Yellow Sandstone intermixed with Blue and Yellow Clay of varying thickness.

Temperature and Rain-fall.

I have taken carefully throughout the year records of Rain-fall and Temperature, as follows :—

	Inches.		Inches.
1893 ..	24·82	1898 ..	21·53
1894 ..	30·25	1899 ..	25·79
1895 ..	25·93	1900 ..	29·30
1896 ..	20·24	1901 ..	25·81
1897 ..	24·20	1902 ..	28·74
Average for the last 10 years ..		25·76	

1903.

	Inches.		Inches.
January ..	3 28	July ..	3·66
February ..	2·87	August ..	4·30
March ..	4·37	September ..	3·35
April ..	1·57	October ..	7·82
May ..	3·58	November ..	1·79
June ..	3·71	December ..	2·66
		Total ..	42·96

Mean Temperature.

		Maximum. Degrees.		Minimum. Degrees.
January ..	..	40·00	..	32·00
February ..	..	46·20	..	35·17
March ..	..	49·18	..	36·70
April ..	..	54·19	..	33·18
May ..	..	57·10	..	39·15
June ..	..	59·14	..	43·80
July ..	..	68·90	..	51·23
August ..	..	63·14	..	53·10
September ..	..	60·27	..	43·40
October ..	..	56·12	..	40·50
November ..	..	49·40	..	31·29
December ..	..	39·16	..	28·16

Table I.
VITAL STATISTICS FOR WHOLE DISTRICT.
BOROUGH OF LUDLOW.

Year.	Population each Year.	Births.		Total Deaths in District.				Deaths in Public Institutions.	Deaths of Non- Residents registered in Public Institutions	Deaths of Residents in Public Institutions outside District.	Deaths at all ages.	
		Number.	Rate.	Under 1 yr age		At all ages					Number.	Rate.
				Number.	Rate per 1000 Births registered.	Number.	Rate.					
1	2	3	4	5	6	7	8	9	10	11	12	13
1893	4353	98	22·5	15	153·0	72	16·5	0	0	9	81	18·6
1894	4301	102	23·7	13	127·4	85	19·7	1	0	7	92	21·4
1895	4249	104	24·2	11	105·7	65	15·3	1	0	8	73	17·1
1896	4193	109	25·9	9	82·5	62	14·7	1	1	4	65	15·1
1897	4148	105	25·2	12	114·2	69	16·6	3	1	5	73	17·8
1898	4099	97	23·6	16	164·9	72	17·8	0	0	5	77	18·8
1899	4050	108	26·6	20	185·2	93	30·	0	0	12	105	25·9
1900	4001	140	34·9	15	107·1	82	20·5	6	0	13	95	23·7
1901	4552	162	35·5	22	135·8	76	16·7	5	0	12	88	19·3
1902	6328*	186	29·4	17	96·7	111	17·5	10	9	9	111	17·5
Average for												
1893 1902	4235·7	114·8	27·0	14·2	124·9	74·2	18·27	2·2	·2	8·6	82·6	19·5
1903	6328*	169	26·7	14	82·8	106	16·7	23	11	10	105	16·6

Rates calculated per 1000 of estimated population. *Census population 1901.

N.B.—The deaths in column 7 of this table are the whole of those registered during the year as having actually occurred within the district. The deaths in column 12 are those in column 7 corrected by the subtraction of those in column 10, and the addition of those in column 11. “Non-Resident” denotes a person brought into the district on account of illness, and dying there. “Resident” denotes a person taken out of the district on account of illness, and dying elsewhere.

Area of district in acres	..	..	416
Total population—all ages	..	..	6328
Number of inhabited houses	.	..	1538
Average number of persons per house	..	..	4.11

Statistics.

All returns during the past year are based upon the extended area of the enlarged borough, and the figures of the 1901 census are used as a basis for calculation.

Marriages.

48 Marriages took place within the Borough during the year.

Year.	No. of Marriages.	Year.	No. of Marriages.
1893	.. 44	1898	.. 45
1894	.. 49	1899	.. 53
1895	.. 48	1900	.. 53
1896	.. 42	1901	.. 57
1897	.. 52	1902	.. 67

The average number of people married during the last ten years is 102, or 23 per 1000 of population.

During 1903 there were 48 marriages, or 15 persons per 1000.

Births.

During the year there were 169 births registered—87 Males, 82 Females—showing a birth rate of 26.7 per 1000 of population.

The average birth rate for the last 10 years is 27.2.

Of the births registered, 15—5 Males, 10 Females—were illegitimate. This gives a percentage of 8.8 of the total births, or 1 out of every 12. An increase on the percentage of last year.

The average for the last 10 years is 9.05 per cent., or 1 out of every 11 births.

Deaths.

During the year 106 deaths were registered, and the death rate was 16.6.

The average for the past 10 years being 19.5.

The chief causes of death were :—

Diseases of Respiratory Organs ..	12
Malignant Disease	2
Disease of Chest	7
Heart Diseases	10
Accidents	2
Senile Decay	24
Apoplexy	8

Coroner's Inquests.

Seven deaths were returned during the year on the certificate of the Coroner, the following being assigned as the cause of death :—

Accident	2
Natural causes	2
Suicide	1

In two cases the cause of death was not certified.

Table IV.

DISTRICT OF BOROUGH OF LUDLOW.

Causes of, and ages at Death, during the year 1903.

Causes of Death.	Deaths in whole district at subjoined ages.							Deaths in Public Institutions.
	All ages.	Under 1 year.	1 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 65 years.	65 years and upwards.	
Small-pox	2				1		1	
Measles	1		1					
Epidemic Influenza ...	2						2	
Diarrhœa	4	3		1				
Phthisis	6				2	4		
Other Tubercular Diseases	1					1		
Cancer—Malignant Disease	2					1	1	
Bronchitis	5	1	2				2	
Pneumonia	6					3	3	
Pleurisy	1					1		
Alcoholism—Cirrhosis of Liver	2					2		
Premature Birth ...	4	4						
Heart Disease	14		1			3	10	
Accidents	2		1				1	
Suicides	1						1	
Nephritis	1					1		
Senile Decay	24						24	
Rheumatism	1						1	
Cerebral Hemorrhage ...	8						8	
Congenital Debility ...	5	4	1					
Other Diseases	14	2	1		4	4	3	
All causes	106	14	7	1	7	20	57	10

Situate and included in Borough.

Statistical Comparison with other Districts.

	Estimated Population to middle of 1902.	Births	Deaths	Annual rate per 100 living.			Deaths under 1 year per 1000 births
				Births	Deaths	Chief Infectious Diseases	
76 Great Towns ...	14,862,962	452,909	263,091	30.0	17.4	2.12	145
London ...	4,579,110	132,810	82,540	28.5	17.7	2.23	141
Liverpool ...	692,495	24,087	15,815	34.2	22.5	3.08	163
Manchester ...	549,170	18,301	11,143	32.8	20.0	1.99	152
Birmingham ...	528,181	17,079	9,997	31.8	18.6	2.53	157
Leeds ...	437,037	13,246	7,797	29.8	17.6	1.99	159
Brighton ...	124,539	3,071	2,001	24.3	15.8	1.26	125
Bournemouth...	61,628	1,074	774	17.1	12.4	0.78	115
Cardiff ...	168,909	5,408	2,885	31.5	16.8	2.69	146
Merthyr Tydfil ...	70,568	2,824	1,659	39.4	23.1	2.77	185
York ...	79,114	2,320	1,250	28.9	15.5	1.35	116
Stockport ...	94,422	2,636	1,823	27.5	19.0	1.84	179
Ludlow ...	6,328	169	105	26.7	16.6	0.94	82

Infantile Mortality.

The deaths of Infants under 1 year were 14, or 8.3 per cent. of all deaths registered, and the rate of Infant Mortality per 1000 births is 82.8—a great decrease on the 96.7 of last year.

Deaths under 1 year per 1000 births.

District	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	Av'r'ge 7 yrs.
England and Wales ...	159	137	161	148	156	161	163	—	—			153
33 Great Towns ...	181	152	182	167	177	178	181	—	—			174
67 other Large Towns	—	142	176	161	169	173	178	—	—			166
Ludlow ...	161	127	106	79	140	160	183	107	136	96.7	82.8	129

Table II.—Vital Statistics.

LUDLOW.

Year.	Population Estimated.	Births Registered.	Deaths at all ages.	Deaths under 1 year.
1893	4353	98	81	15
1894	4301	102	92	13
1895	4249	104	73	11
1896	4193	109	65	9
1897	4143	105	73	12
1898	4099	97	77	16
1899	4050	108	105	20
1900	4001	140	95	15
1901	4552*	162	88	22
1902	6328*	186	111	17
Average of years 1893—1902.	4427.9	121.1	86.0	15.0
1903	6328*	169	105	14

* Census Population.

Zymotic Diseases.

The number of deaths from the "Seven Chief Zymotic Diseases"—Small-pox (2), Measles (1), Scarlet Fever, Diphtheria and Membranous Croup, Whooping Cough, Fever (Typhus, Typhoid and Continued), and Diarrhœa (4), was only 7. This gives a death rate 1·1 per 1000 living. The average in the Borough for the past 10 years is 1·0.

Table III.—Ludlow District.

Cases of Infectious Diseases notified during the year 1903.

Notifiable Disease	Cases notified in whole District.					
	At ages.		Years.			
	under 1	1 to 5	5 to 15	15 to 25	25 to 65	65 and upwards
Small-pox	5				2	3
Cholera						
Diphtheria						
Membranous Croup ...						
Erysipelas	2					2
Scarlet Fever	3	1	2			
Typhus Fever						
Enteric Fever						
Relapsing Fever						
Continued Fever						
Puerperal Fever						
Plague						
Varicella	15	4	11			
Totals	25	5	13		2	5

These deaths were distributed throughout the year as shewn in the following table :—

INFECTIOUS DISEASES ACT.

	Small-pox.	Cholera.	Diphtheria.	Membranous Group.	Erysipelas.	Scarlet Fever.	Typhus.	Enteric.	Relapsing.	Continued Fever.	Puerperal Fever.	Plague.	Varicella.
January ...						1							
February ...	1					1							
March ...	2												
April ...					1								
May ...													1
June ...	2												2
July ...													6
August ...						1							3
September ...													
October ...													
November ...					1								3
December ...													
Totals ...	5				2	3							15

Small-pox Isolation Hospital.

The action of the Ludlow Town Council and of the Rural District Council in jointly erecting an Isolation Small-pox Hospital is much to be applauded. While not pretending to be a perfect scheme, its accommodation has proved most useful in the recent outbreak of Small-pox. The cases resulting in death were as follows :—

The first case was introduced into the district by a drover from Tenbury, who first went to the Workhouse and was afterwards removed to the Isolation Hospital.

The second case was a most malignant form in a cottage in Rock Lane, and death soon ensued.

The third case occurred in the Workhouse, and the patient died really owing to senile decay; Small-pox being an accelerating cause only.

The fourth case also occurred in the Workhouse.

The fifth case was in a cottage in Steventon New Road, and the patient was removed to the Isolation Hospital.

There is no doubt whatever that tramps were responsible for the introduction of the disease, and the authorities are to be congratulated on the prompt and efficient measures taken in every case to check its spread.

The question of providing a system of Small-pox Isolation Hospitals for Shropshire has engaged the attention of the County Authorities. The matter presents very great difficulties, but the County Medical Officer, Dr. Wheatley, has succeeded in producing a scheme which fairly covers the ground. In some quarters the scheme has been freely criticised, but so far no alternative scheme has yet been presented. Though the provision of a Small-pox Isolation Hospital by the united action of our Urban and Rural District Authorities renders this immediate neighbourhood independent of a County Scheme, yet I think it would be well that Dr. Wheatley's proposals should receive the full consideration which they deserve.

Statistics of Births and Vaccinations in Borough of Ludlow.

Year.	Births.	Successfully Vaccinated.	Insusceptible to Vaccination.	Have had Small-pox.	Conscientious Objections.	Dead.	Postponed.	Removed.	Removed unknown.	Unvaccinated.
1893	98	81				14			3	
1894	102	86				13			3	
1895	104	90				8	1		5	
1896	109	99				6			4	
1897	105	92				9			4	
1898	97	88			3	14			2	
1899	108	80			4	16	6		2	
1900	140	69	1		7	10	17		2	34*
1901	162	109			10	17	12		2	12*
1902	190	114			6†	12	6	1		52*
1903	169	85			7	9	8	4	5	51*

* Owing to no Vaccination being compulsory till child is 4 months old.

† One Certificate granted in 1901 not received till 1902.

The above Analysis of Births and Vaccinations is satisfactory, though there is a slight increase in the number of conscientious objections—7 for 1903, as compared with 6 for 1902—an increase amounting to only 1 per cent, when calculated on the number of births.

Five years' trial of vaccination, as performed in accordance with the regulations of the present Act, have proved conclusively that it is not injurious to the health, and statistics continue to show its value both as regards the danger of taking small-pox and also by greatly

minimising the violence of the disease and the disfigurement which used to be almost universal.

The duration of the present Act is now coming to an end, and we may look forward to an Act in 1905 which will not only render Vaccination compulsory but also insist upon the revaccination of children about the age of 14 years.

Inefficient Vaccination.

At a meeting of the Portsmouth Guardians, held March 13th, 1901, the following resolution was unanimously adopted on the motion of Dr. Gaston :—

“That in view of the large number of children throughout the country that are inefficiently vaccinated by private practitioners (in Portsmouth it is officially estimated they number more than 50 per cent.), this Board petition the Local Government Board to take steps that in future legislation such practitioners be compelled to vaccinate up to the same standard of efficiency as the public vaccinator, and that the Poor Law Unions’ Association and all Boards of Guardians throughout England and Wales be asked to join in this petition.”

The motion was put forward on account of the large number of “single” vaccinations which it was stated were performed at Portsmouth by one or two practitioners. Such vaccinations are, of course, a compliance with the letter, but not the spirit of the law.

Enteric or Typhoid Fever.

There has been no cases of this disease within the Borough during the past year. As I have previously enumerated, the chief causes of Typhoid in Ludlow, are :—

1. Soil and ground-air pollution by soakage of liquid filth from the many faulty privy pits which still exist.
2. Soil and ground pollution by leakage of sewage from defective drains.
3. Faulty and badly constructed water closets.
4. Infected dust and emanations from privy pits into which Typhoid discharges have been thrown.

The evils of soil pollution by infected ground-air* and ground-water† are certainly accentuated by hot, dry weather, and I cannot too strongly urge the necessity of abolishing the privy system, which is a constant source of injury and danger to the health of the town, especially in hot weather.

* By “ground-air” is meant the air which is present in soils, and which fills all the interstices in the subsoil above the level of the ground-water.

† By “ground-water” is meant the continuous mass of water which at some depth below the surface of all permeable soil fills all the interstices to the complete exclusion of air.

Infected soil and emanations from middens into which the discharges of Typhoid patients have been thrown. This is a fruitful source of disease, especially where middens are so placed that their contents can only be removed through a dwelling-house. All property where middens are so situated is of an insanitary character, and the middens should be replaced by W.C's. to render the house fit for human habitation. There still remains in the Borough a large number of defective middens, which form a grave menace to public health.

In connection with this subject it is well to remember that where a corporate authority undertakes the scavengering of a district, that duty includes the *efficient disinfection* as well as the cleansing of privy pits into which Typhoid discharges have been thrown, and such corporate authority is responsible for all failure of efficient disinfection.

This is clearly laid down in the case of *Barnet v. Laskey*, decided on November 8th, 1898.

To secure this efficient disinfection, it is absolutely necessary that all surfaces of privy pits must be *completely impervious*. But their ordinary contents impair the efficiency of the very best cements in a comparatively short time, and this is one of the best reasons for avoiding these most objectionable structures.

In connection with the disinfection of houses, I would point out the many disadvantages—from a sanitary point of view—of papering the rooms of small cottages, and would urge that the question of the possibility of substituting some form of paint might at least be considered by property owners, agents and occupiers. The wall papers have the one advantage of cheapness, an all sufficient advantage, I fear, in the eyes of some, but they are bad from every other point of view, and are made to cover a multitude of defective walls besides harbouring and concealing insanitary horrors of which the dangers could hardly be exaggerated. Paint of any sort necessitates, to begin with, fairly good plastering of walls, a great point in itself, and the advantages arising from its rendering the walls washable are inestimable, particularly in small cottages. Its cost, and the prejudice on the part of small householders in favour of paper, are the chief obstacles to the use of paint, but the water paint which is now

to be had is certainly cheaper, and my experience of it is that it is satisfactory as a permanent washable paint in every way. The predilection on the part of cottagers in favour of wall paper is certainly more difficult to overcome, but surely the plain colour of a painted wall surface is at least as pleasing to the eye as is the design of the majority of the cheap wall papers which adorn our homes. I hope that some owners and occupiers may be persuaded to give water paint a trial; I believe they will not regret the experiment.

Diphtheria.

There have been no cases of this disease notified during the past year.

Diarrhœa.

Four fatal cases occurred during the year—3 being infants under 12 months old—but on the whole the Borough has not been troubled to any serious extent by this disease.

The Provision of an Isolation Hospital.

I again desire to draw your attention to this important subject. The value of such a hospital does not seem to be appreciated as it ought to be in small towns and districts, but in large towns the population have perceived its advantages and are not slow to avail themselves of its uses.

Either the Borough alone or the Borough and District should provide such an institution, and I trust the matter will receive your serious consideration at an early date.

In building such a hospital it should be noted that as its existence is for the benefit of the general public rather than of the private individual, it is desirable that admission should not be hampered by restrictive charges and conditions which would prevent its use by the poorer part of the community, for these have the least chance of isolation and proper treatment in their own homes.

Where districts are not very large or very populous, it is often a great advantage that two or more should unite to provide hospital accommodation.

The amount of permanent hospital accommodation to be provided in proportion to the population depends upon :

- (i) The character of the district. Whether Urban or Rural.
- (ii) The Rate of Increase of Population.
- (iii) The Housing and Habits of the People.
- (iv) The intercourse with other places whence infectious diseases may be introduced.

In this district an initial provision of two beds per 1000 would not be too much, as the demand for the benefits of the institution rapidly increases when once the public appreciates its benefit.

Its site should be easy of access to the district which it is intended to serve.

It should have a good and efficient water supply, and should be well sewered without any risk of contaminating springs or wells, and a dry subsoil is most desirable.

Tubercular Disease.

During the year there have been, as last year, 8 deaths from this disease, which is really preventable, and so claims our greatest efforts to protect as far as possible all risk of contagion from the general public.

The Provision of Sanatoria for Tuberculous Patients.

The laying of the foundation-stone of the King Edward VII. Sanatorium by His Majesty is an event of great importance and of great interest from a health point of view to all those who have been fighting the "White Plague," as our American colleagues have called it. The circumstance cannot fail to direct the attention of local authorities to the subject, and must prompt them to take steps for the provision of sanatoria throughout the country. We look forward, moreover, to the active co-operation of our great Friendly Societies. From the statistics furnished from Germany, where no less than eighty-nine sanatoria have been provided through the instrumentality of the German Imperial Board of Insurance, we learn that 22,000 patients are being treated annually with most satisfactory results.

The impetus towards the erection of sanatoria which will result from His Majesty's gracious act in deciding to devote Sir Ernest Cassel's princely gift for the benefit of consumptives makes it imperative that careful consideration be given to the lines on which such sanatoria should be provided. It has been suggested by various medical men who have had practical experience in treating consumptives on the open-air principle that buildings on the "hospital" system are unnecessary; in fact, some go so far as to say that it is a mistake to erect such, as much better results can be obtained by simpler and much less expensive means. This is a matter of importance to the ratepayer, who will have to find the money, and who might readily be deterred by a large sum which would add materially to his burdens.

In the "HEALTH RESORT for October, Dr. Charles Reinhardt points out that the "châlet" system has great advantages over the hospital system. "No patient," he says, "who has occupied a sleeping châlet will exchange it for a room. The air passing through a châlet is as agreeable, when compared with a draught in a room, as a gentle morning breeze meeting one in a country lane is pleasant in comparsion with the chilling draught experienced on a railway platform. The initial cost of châlets is much less than that of rooms. The patients are isolated. Incipient cases are cured in 25 per cent. less time where châlet patients are concerned than is the case where patients occupy rooms. Nothing can be more convincing than the effect produced upon a patient with a high temperature, when transferred from a room to a châlet. The drop in the temperature often amounts to an average of a degree in a few days."

The experience of other men leads them to similar conclusions; one, a pioneer on the subject in this country, says: "The patients in châlets simply race away from those treated in rooms." At a recent meeting of representatives of the various district councils in the county of Denbighshire, this view was forcibly brought before them by Dr. Whitaker, of Shrewsbury.

Mr. Malcolm Morris, speaking * on behalf of the National Association for the Prevention of Consumption at Edinburgh lately, emphasized strongly the danger likely to arise if palaces of the most sumptuous character were provided for consumptives. It could not be too widely known that the disease could be met by the very simplest possible means, and the Association felt that if great, costly palaces were demanded great harm would result, as, rather than spend large sums of money on bricks and mortar, the treatment of the disease might be neglected.

We are glad to see that the Association is taking up a strong position on this subject, thus, through its local branch it has pointed out to the inhabitants of Belfast what bungalows have done. all that is needed being an old country house with an administrative block and some cheap shelters. A month at such a place for each patient, on the lines demonstrated by Dr. Newsholme at Brighton, would teach him the value of fresh air and the importance of dealing properly with the expectoration. Such a place with 100 beds would give 1,200 patients four-week's treatment each year.

Prompt provision in the interests of the community should be made not only for the disposal of hopeless cases, but also for the treatment of the disease in its incipient stages when there is every prospect of a cure.

* Tuberculosis, vol. ii., No. 8, October, 1903.

Malignant Disease.

Two deaths only were recorded in 1903, while eight deaths were recorded in 1902. A careful inspection of the registers from June, 1888, to June, 1898, reveals the fact that during this decade no less than 90 deaths occurred within the district from cancer. Their distribution is shown by the accompanying table :—

Place	Population.	Deaths.	Per cent. per annum.	Per Thousand per annum.
Bromfield	546	0	0	0
East Hamlet	1391	28	0·2	2·0
Ludford	528	1	0·02	0·2
Ludlow	4460	40	0·09	0·9
Onibury	499	8	0·16	1·6
Richard's Castle (Salop) ..	486	5	0·1	1·0
Stanton Lacy	640	8	0·12	1·2

In connection with the high figures of East Hamlet it should be noted that the Union Workhouse is situated there, and many cases of Malignant Disease were admitted from surrounding parishes.

These figures were forwarded to the Birmingham and Midland Counties branch of the British Medical Association, who were then prosecuting an enquiry into the "Influence of Locality on the prevalence of Malignant Disease."

Statistics were collected over a wide area, and led the Association to the following conclusions :—

1. Certain more or less well defined areas exist in which mortality from cancer is markedly above, and others at which it is markedly below the average for England and Wales.
2. Although age and sex incidence undoubtedly influence this variation, in some cases considerably, they only account for a small proportion of it.
3. That owing to the great difficulty of diagnosis in many cases of internal cancer, the death rate from this disease is probably at present underestimated.
4. Contamination of the soil or subsoil for long periods with decomposing organic matter, is very probably a factor in the production of a high death rate from cancer.
5. A damp, ill-drained, water-logged soil, of whatever geological formation, is more frequently associated with a high cancer death rate than a dry well-drained soil.
6. There is abundant evidence of the existence of groups of houses in which cancer is found with marked frequency, and some evidence which tends to show that second and third cases occur in the same house with greater frequency than can be accounted for by mere coincidence.
7. Cancer occurs more frequently in old than in new houses and districts.
8. There is some evidence suggesting that under certain circumstances cancer may possibly be transmitted from one person to another in constant close association.

Water Supply.

During the past year the water supply of the Borough has been good both in quality and quantity. Slight discolouration again occurred during heavy rain. This was caused by the flooding of a considerable portion of the catchment area. The Turbine needs some repairs, and it would be well if some scheme could be devised for keeping it free to a greater extent than at present from the leaves which in autumn find their way into the river.

Sewage System.

Though, so far as the old Borough is concerned, the new Sewage Scheme is now complete, it is much to be regretted that serious defects exist.

1. The new Sewer from Corve Street to Mill Street is most inefficiently constructed, being laid irregularly and badly jointed, so that much surface water enters it. This adds to the labour, and therefore to the cost of pumping at the pumping station.
2. The Sewage Disposal Works are a complete failure, the tanks are badly constructed, and the filtering material with which they are filled is utterly useless for its intended purpose.

Connections with the completed sewers have been made in many cases.

As pointed out last year, all sewers and house drains should be impervious tubes, round or oval in section, and all joints should be absolutely water-tight—no puddle, but cement and gaskin being used for the joints.

Some progress has been made with the main sewers in the added area of the New Borough, and I trust the whole of the mains will be laid with the least possible delay, as efficient sewerage is an absolute necessity to the well-being of the community.

Sewer Ventilation.

A great number of rain water pipes are still directly connected with the sewers, and many discharge sewer gases at a level below that of the adjoining windows.

This arrangement is bad from a sanitary point of view, as the rain water-pipe acts as a ventilator to the sewer, and as it cannot be carried above the eaves of the roof, it discharges its air contents too near the windows. For this reason these pipes should not be connected with the drainage system but should be made to discharge their contents over properly trapped gulleys.

Progress has been made in the conversion of the large street-gulleys into more suitable and sanitary ones.

House Drainage.

Without doubt emanations from infected sanitary appliances, and polluted by leakage from drains, are intimately associated with cases of Typhoid and Diarrhœa. It is therefore of prime importance that these defective conditions should be avoided as far as possible in a water carriage system. All W.C. connections and drains should be subjected to and should withstand the water test before being passed, *i.e.* the outlet of the drain should be plugged, then the drains and soil pipes be filled with water, whose level should remain constant, thus showing the absence of leakage.

It may be objected that this test is too severe, yet it is exactly what happens in practice if from any cause a drain becomes blocked and the sewage accumulates on the closet side of the obstruction.

If the drain joints are defective, pollution of the surrounding subsoil follows, and this is the case in many instances in drains in old houses in the Borough.

To obtain a water-tight condition :

1. All plumbing joints should be well-made.
2. All drains should have a suitable fall with a firm bed on which the pipes are laid. All joints should be carefully made with cement or gaskin. "Puddle" is wholly incapable of withstanding the water test, is liable to be washed away, especially after an obstruction, or can readily be pierced by roots of trees, etc., as was recently found.
3. House drains and soil pipes should be efficiently ventilated, and where possible closets within houses should be fixed in a cross-ventilated annexé.
4. All drainage works should be examined and tested by a competent person before being passed.
5. Such work is often carried out in a manner which shows gross carelessness and incompetency, and it is well to remember that under Section 48, Public Health Act (London), 1891, power is given to deal with such cases. The Section reads as follows :—
 "If a water-closet or drain be so constructed or repaired as to be a nuisance or injurious or dangerous to health, the person who undertook or executed such construction or repair shall, unless he show that such construction or repair was not due to any wilful act, neglect, or default, be liable to a fine not exceeding £20."

“ Provided that when a person is charged with an offence under this section, he shall be entitled, upon information duly laid by him, to have any other person, being his agent, servant, or workman, whom he charges as the actual offender, brought before the court at the time appointed for hearing the charge, and if he prove to the satisfaction of the court that he had used due diligence to prevent the commission of the offence, and that the said other person committed the offence without his knowledge, consent, or connivance, he shall be exempt from any fine, and the said person may be summarily convicted of the offence.”

The Housing of the Working Classes Act, 1890.

The provision of better accommodation for the poorest class of the community, is a difficulty with which municipal and local authorities must deal in a more effective manner than in the past. Many large towns are taking steps under this Act to clear away insanitary areas, and to provide tenement dwellings for the displaced populations. It is not in these large towns where difficulties are so great in dealing with this problem, but in small towns and villiages, where as a rule the most insanitary dwellings exist, for as a rule the older the town the greater the lack of suitable sanitary arrangements, and the greater the proportion of dwellings unfit for human habitation.

It is here, too, that most often, owing to local influence, the efforts of the Medical Officer of Health to enforce this Act, are rendered ineffective or fruitless. The Act is divided into seven parts, of which the first three are the most important. These deal :—

- (i) With Unhealthy Areas.
- (ii) With Unhealthy Dwellings.
- (iii) With Dwellings for the Working Classes.

This Act gives Authorities power to deal with—

- (a) Individual houses by insisting upon having them made fit for human habitation, or if that is not, or cannot be done, by closing or demolishing them.
- (b) Obstruction buildings, which cause other dwellings to be unhealthy by demolishing them.
- (c) Large areas or slums which can be acquired, pulled down, and an improvement scheme carried out.
- (d) Small areas of unhealthy houses by having them pulled down or reconstructed.
- (e) The erection of dwelling or lodging-houses for the poorer classes in places where the same are required.

Under Part I it is necessary sometimes to condemn insanitary areas, but it is a costly method which the smaller towns seem to shun, as the purchase of the site and the provision of dwellings for the displaced tenants is an unremunerative business.

Part II is therefore more suitable to small towns and villages. Its object is the demolition of unhealthy or obstructive buildings where they are few in number or where the small size of the area makes it unwise to proceed under Part I, as when an area is condemned under this part of the Act, dwelling-accommodation must be provided for the tenants displaced in carrying out the scheme.

Part III provides for the erection of Lodging Houses for the working classes. This portion of the Act is adoptive and so its advantages are not so often obtained as they should be.

Under this part Local Authorities may purchase existing Lodging Houses, and manage them as municipal dwellings. Urban Authorities can also obtain powers under this Act to provide dwellings for the working classes outside their own district. By a judicious enforcement of powers already conferred, Local Authorities may do much to improve tenement dwellings in their respective districts, and render them healthier and more fit for human habitation where such action is needed.

During the past year the Medical Officer of Health, has advocated action wherever necessary.

Sanitary Work in 1902.

The following account is furnished by the Sanitary Inspector, of Sanitary work done during the year ending December 31st, 1903, in the Ludlow Urban Sanitary District.

Approximate Number of Houses which have been inspected during the above period, either in connection with outbreaks of infectious disease, or in consequence of complaints, or in course of a Systematic Survey	250
Total Number of Notices of all kinds served, including formal and informal notices and repetitions	73
Approximate number of such notices complied with	60
Number of Letters written	350

Particulars of Sanitary Matters referred to in the above Notices :—

(a) Houses disinfected after infectious disease	15
(b) Deficient or objectionable Water Supply	1
(c) New Drains to be constructed or the old ones amended	63
(d) New Closets to be provided or old ones to be amended in construction	
(e) Houses damp or dirty, or admitting rain, or weather, or otherwise in a bad sanitary condition.....	12
(f) Offensive accumulations of all kinds.....	6
(g) Animals so kept as to be a nuisance.....	
(h) Houses overcrowded.....	3

Number of cases in which proceedings before Magistrates have been taken to obtain compliance for any of the following reasons :—

(a) Failure to comply with any of the above Notices	10
(b) Offering Bad Meat for Sale.....	None
(c) Public exposure of Infected persons and things.....	None
(d) Offences against By-laws and Regulations relating either to Slaughtershouses, Bakehouses, Milkshops, Lodging- houses, Offensive Trades, etc.	2

Disposal of Excrement and Refuse.

This important matter needs the serious attention of the Sanitary Authority. The mass of refuse in the Smithfield is still ever increasing, and is now become a public nuisance and a danger to the health of the town. The difficulty of finding a suitable tip near the town, and the costliness of cartage to a more distant one, seem to point to the erection of an efficient destructor as the most economical means of disposing of this refuse.

As the following figures form the only reliable record to hand, it may not be inadvisable to quote them :—

	Midden	Ashes	Sweepings	Sidings	Gulleys	
In 18 weeks ..	228.....	336.....	452.....	20.....	70	that is
Per year..	659.....	1,115.....	1,306.....	58.....	202	

This makes a total of 3,340 loads, or 3,340 tons, exclusive of Trade and Garden refuse.

In the newly added portion of the extended borough, water-carriage is much less used than in the old borough, and refuse from a conservancy system will be in a much higher proportion. It would therefore be a fair assumption to increase the above returns by 50 per cent., which will give 5,015 tons as a fair estimate for the extended area. This gives an average of 16 tons for each working-day throughout the year.

Destructor.

Much of the prejudice against refuse destructors is due to the imperfect types which were erected some years ago. These owed their inefficiency to the lack of a temperature sufficiently high to consume the fumes and noxious gases which were generated during the destruction of the refuse. More modern destructors develop a much higher temperature with the result that the unsavoury odours disappear. In addition, the calorific value of the consumed refuse is utilised for the generation of steam which is employed in the production of electricity, for pumping sewage, and other purposes. Destructors of this type are in use at Liverpool, Oldham, Accrington, Darwen, Ashton-under-Lyne, and in Fulham and Shoreditch, and others are in course of erection.

There is no doubt that improvements are imminent in the handling and disposal of refuse at the destructors so as to avoid accumulation and save expense. It is also equally certain that economy will be made in utilizing the "clinker" which is the chief destructor "product." This is already used for concrete work, for filtration of sewage, for mortar making, and in the manufacture of artificial stone and of concrete bricks. With proper care in dealing with residuals an up-to-date destructor should therefore be no burden to the ratepayers in a population such as that of our borough.

Interim Report of the Royal Commission (1898) on Sewage Treatment and Disposal.

In July last the Commissioners presented an interim report in which they state that, whilst a considerable time must elapse before they are in a position to report upon certain parts of the Terms of Reference, they have arrived at conclusions on three questions of urgent importance :—

- I.—In regard to the unsuitability of some sorts of land, the Commissioners are "forced to conclude that PEAT and STIFF CLAY lands are *generally unsuitable for the purification of sewage*, that their use for this purpose is always attended with difficulty, and that where the depth of top-soil is very small—say six inches or less—the area of such lands which would be required for efficient purification would, in certain cases, be so great as to render land purification impossible."
- II.—In regard to the *purification obtainable by the various artificial processes* at present employed, the Commissioners "are satisfied that it is practicable to produce by artificial processes alone, either from sewage, or from certain mixtures of sewage

and trade refuse—such, for example, as are met with at Leeds and Manchester, effluents which will not putrefy, which would be classed as good according to ordinary chemical standards, and which might be discharged into a stream without fear of creating a nuisance.” They think, therefore, that there are cases, each to be considered on its own merits, in which the Local Government Board would be justified in modifying, under proper safeguards, the present rule as regards the application of sewage to land. The Commissioners, however, insist on the necessity, in order to safeguard Public Health, of knowing not only the chemical features, but also the bacteriological character of the effluents. Effluents from land of a kind suitable for sewage purification contain fewer micro-organisms than do the effluents from most artificial processes. But both classes of effluents contain large numbers of organisms, some of which are of a kind liable, under certain circumstances at least, to give rise to disease, and the Commissioners are considering what means are practicable and available for destroying such organisms.

III.—In regard to *means to be adopted for securing the better protection of our rivers*, the evidence received shows that it is of considerable importance to have for each water-shed a single authority. The Commissioners think it desirable that experiments should be carried on to ascertain all the real dangers of pollution, as in the present state of bacteriology it is difficult to estimate these dangers with any accuracy, and they are liable to be exaggerated or under-valued according to the pre-disposition of those who have to deal with them. The creation of a Supreme Rivers Authority, either as a department of the Local Government Board or otherwise, is therefore advocated.

Bakehouses.

These have all been duly inspected during the year and found satisfactory.

Dairies, Milk-shops, Cow-sheds, etc.

These have all been properly inspected during the year. The cow-sheds and their general sanitary surroundings are still capable of improvement. No samples taken during the year were found to be adulterated.

Some steps have been taken by the Board of Agriculture to remedy the disgracefully low milk standard of the country. This standard was founded upon milks of the poorest quality, the product of single cows. But the milk of commerce is the mixed product of a number of cows, and the average should certainly be expected to be above the minimum.

Sale of Milk Regulations, 1901.

It should be noticed that the Board of Agriculture have issued an Order, dated August 5th, 1901, establishing the following Milk Standard, which came into force on September 1st, 1901 :—

MILK not being sold as “skimmed,” “separated,” or “condensed,” *must NOT contain LESS than 3 per cent. of milk-fat, and 8·5 per cent. of milk solids other than milk-fat.* The Standard of The British Inland Revenue Department has hitherto been 2·75 per cent. of milk-fat and 8·5 per cent. of non-fatty solids.

“SKIMMED” or “SEPARATED” MILK, not being “condensed” milk, *must not contain less than 8·5 per cent. of milk-solids other than milk-fat.*

A glance at the following table will shew how we compare with other countries, even with this higher standard.

Milk Standards per centage by weight of Solids :—

	Fat.	Non Fat.	Total.
Paris	4·0	9·0	13·0
Treasury Dept., U.S.A.	3·5	9·5	13·0
Berne	3·5	9·0	12·5
Canada	3·5	8·5	12·0
New York	3·0	9·0	12·0
Inland Revenue Dept.	3·0	8·5	11·5

Preservatives in Food.

In July, 1899, the Departmental Committee of the Local Government Board was appointed to enquire into :—

1. The use of preservatives and colouring matters in the preservation and colouring of food, and whether the use of such materials, or any of them in certain quantities, is injurious to health, and if so, in what proportion their use becomes injurious.
2. To what extent and in what amount they are so used at the present time.

The report of this Committee is eminently practical, and will meet with general approval, especially in regard to the prohibition of preservatives and of colouring matters in milk. In making this recommendation, the Committee assert that the milk industry can be successfully conducted without preservatives, which are in themselves *ipso facto* evidence of bad dairy management.

The Committee also recommend that formaldehyde or its preparations should be *absolutely prohibited* in articles of food or drink, and that salicylic acid shall not exceed the proportion of 1 grain per pint or pound, as in this quantity there is no evidence that it is harmful.

In the case of cream, butter and margarine, it is recommended that only boric acid or borate of soda should be allowed in quantities not exceeding $\frac{1}{4}$ per cent. in cream, and $\frac{1}{2}$ per cent. in butter and margarine.

The Committee further recommend that in all cases the nature and quality of the preservative used should be distinctly notified and dietetic preparations for infants or invalids should be *absolutely free from chemical preservatives* of any kind.

In respect to colouring matters, the Committee generally find their use not hurtful in the small quantities employed, and only recommend the prohibition of the use of sulphate of copper as a colouring matter for tinned peas.

The Report closes with a general recommendation that means be devised to secure efficient supervision over the use of preservatives and colouring matters in foods, and that schedules be prepared and published of all such as are inimical to the public health.

Inspection of Workshops.

The Workshops Act which came into force on January 1st, 1902, imposes new and important duties, in respect to Workshops, upon the Medical Officer of Health.

Section 132 requires every Medical Officer of Health to report specifically upon the administration of the Act in workshops and work-places, and that a copy of such report shall be forwarded to the Secretary of State.

Section 131 requires a register of all workshops and work-places to be compiled, and to show :—

1. Nature of Workshop or Work-place.
2. Name of Owners and Occupiers.
3. Parish and locality in which situated.
4. Number of Persons employed.
5. Date of Registration.

Size, etc.

The total number of workshops registered under this Act during the past year is 59, consisting of 7 retail bakehouses and 52 other work-shops. There are in addition 10 work-places. In order of number the workshops rank under the following heads:—Dressmakers and milliners, saddlers, blacksmiths, coachbuilders and wheelwrights, cycle trade, and tailors.

So far as sanitation is concerned, both workshops and work-places are in a cleanly condition; the air-space is satisfactory, the ventilation is good, as the work-rooms are mostly ordinary rooms or shops. There are no wet floors.

The general sanitary condition of all the bakehouses is very good, and lime-washing is done according to law. There are no under-ground bakehouses in the district.

The Infant Life Protection Act, 1872.

An Act for the better Protection of Infant Life:—

Section II (g) enacts: "It shall not be lawful for any person to retain or receive for hire or reward in that behalf, more than one infant, and in case of twins, more than two infants, under the age of one year, for the purpose of nursing or maintaining such infants apart from their parents, for a longer period than twenty-four hours, except in a house which has been registered as herein provided.

Section III declares: "The Local Authority shall cause a register to be kept, in which shall be entered the name of every person applying to register any house for the purposes of this Act, and the situation of every such house, and the Local Authority shall from time to time make by-laws for fixing the number of infants who may be received into each house so registered; the registration shall remain in force for one year; no fee shall be charged for registration. Every person who receives or retains any infant in contravention to the provisions of this Act shall be guilty of an offence against this Act."

Section IX. Every person guilty of an offence under this Act shall be liable to imprisonment for not more than six months, with or without hard labour, or to a penalty not exceeding Five Pounds, as a court of summary jurisdiction may award, and shall in addition be liable to have his name and house struck off the register."

I am pleased to say that an Inspector under this act has been appointed.

Trusting that this report may be of some use in dealing with the many important matters at present before your Committee.

I remain, Gentlemen,

Your obedient Servant,

C. B. CRANSTOUN,

Medical Officer of Health.